NON-PUBLIC?: N
ACCESSION #: 9210130002
LICENSEE EVENT REPORT (LER)

FACILITY NAME: SEABROOK STATION PAGE: 1 OF 03

DOCKET NUMBER: 05000443

TITLE: REACTOR TRIP DUE TO STEAM GENERATOR LOW-LOW LEVEL
EVENT DATE: 09/07/92 LER #: 92-017-00 REPORT DATE: 10/07/92

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 012

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Mr. Allen L. Legendre, Lead Engineer TELEPHONE: (603) 474-9521
Compliance, extension 2373

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

On September 7, 1992, at approximately 0030 EDT, during a routine shutdown to begin a refueling outage, at approximately 12 percent power, Steam Generator (SG) level oscillations occurred in one SG. Subsequent level oscillations increased resulting in one SG being overfed, and causing a high SG level alarm. This caused the feedwater to isolate to all four SG's, and it initiated Emergency Feedwater Flow and caused a turbine trip. The loss of feedwater resulted in decreasing levels in all of the SG's. Approximately 2 minutes later, at 0032 EDT, levels decreased until the low-low level setpoint (narrow range) was reached in one of the SG's, which initiated a reactor trip.

There were no adverse safety consequences as a result of this event. All equipment functioned as designed and all operator actions were determined to be appropriate to ensure the safety of the plant and the public.

The root cause for this event was determined to be incomplete communication, in that the operations crew did not effectively communicate and coordinate actions that were taking place on rod control, feedwater control, and turbine control.

Operations personnel will critique this event in order to better understand the factors that led to its occurrence. Additionally, it will be determined whether any recommendations and/or lessons learned should be incorporated into the training process. It is anticipated that these actions will be completed by November 30, 1992. North Atlantic will also review the operator requalification training program to ensure that the trip reduction low power feedwater control methodology training is adequate. It is anticipated that this review will be completed on November 30, 1992.

END OF ABSTRACT

Description of Event

On September 7, 1992, at approximately 0000 EDT, during a routine shutdown for a refueling outage, reactor power was being reduced in preparation for taking the generator TB! off-line and conducting a main turbine TA! overspeed test. The main generator output breaker was opened as power dropped below 10 percent rated thermal power and reactor power continued to decline until it leveled off at approximately 7 percent. Steam Generator (SG) level oscillations occurred as a result of this power reduction. SG level oscillations are characteristic when operating at low power levels and practiced manual operator actions are required to preclude diverging levels that may exceed Reactor Protection System (RPS)/Engineered Safety Features (ESF) trip setpoints. Operations personnel gradually increased power in order to conduct the turbine overspeed trip test. At 0030 EDT, with the unit operating at approximately 12 percent power, SG level oscillations continued to increase and the level in the "D" SG increased to the high-high level set point. This initiated a Feedwater Isolation signal, which isolated flow to all four SG's, initiated Emergency Feedwater Flow BA!, and caused a turbine trip. The loss of feedwater resulted in decreasing levels in all of the SG's. Approximately 2 minutes later, at 0032 EDT, levels decreased until the low-low level setpoint (narrow range) was reached in the "C" SG initiating a reactor trip.

Following the reactor trip all .equipment functioned properly. All control rods fully inserted, the Reactor Coolant Pumps AB! remained in operation, and there were no code safety valve or Power Operated Relief

Valve actuations. Operations personnel subsequently closed the Main Steam Isolation Valves to maintain temperature control. The Emergency Feedwater System was secured at 0116 EDT, and the SG's were supplied by the Startup Feed Pump with the steam being dumped to the condenser.

At 0108 EDT, North Atlantic made a four-hour notification to the NRC pursuant to 10 CFR 50.72(b)(2)(ii) since this event constituted an RPS and an ESF actuation.

Safety Consequences

There were no adverse safety consequences as a result of this event. All equipment functioned as designed and all operator actions were determined to be appropriate to ensure the safety of the plant and the public. At no time during this event was there any impact on the health and safety of plant employees or the public.

Root Cause

The root cause for this event was determined to be incomplete communication, in that the operations crew did not effectively communicate and coordinate actions that were taking place on rod control, feedwater control, and turbine control. In this case, independent manipulations of the primary and secondary plant were taking place while the feedwater control station was trying to establish stable SG levels. This diversity of actions on the primary plant and secondary plant made stable control of SG level difficult. Startup experience has shown that integrated plant operations at low power must be performed in a coordinated, deliberate manner to achieve stable feedwater control. Communications between the three stations did not completely convey the operations that were occurring.

Corrective Actions

Operations personnel will critique this event in order to better understand the factors that led to its occurrence. Additionally, it will be determined whether any recommendations and/or lessons learned should be incorporated into the training process. It is anticipated that these actions will be completed by November 30, 1992.

North Atlantic will review the operator requalification training program to ensure that the trip reduction low power feedwater control methodology trai
ing is adequate. It is anticipated that this review will be

completed on November 30, 1992.

Plant Conditions

At the time of this event, the plant was in MODE 1, at 12 percent power, with a Reactor Coolant System temperature of 588 degrees Fahrenheit and pressure of 2235 psig.

This is the fourth occurrence where a high-high level in a SG resulted in a Feedwater Isolation, and the second occurrence where a low-low SG level resulted in a reactor trip. These previous of events were reported in LER's 87-010, 88-08, and 90-025.

ATTACHMENT 1 TO 9210130002 PAGE 1 OF 1

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Ted C. Feigenbaum
Senior Vice President and
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NYN-92136

October 7, 1992

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

References: Facility Operating License No. NPF-86, Docket No. 50-443

Subject: Licensee Event Report (LER) 92-017-00: Reactor Trip Due to Steam Generator Low-Low Level

Gentlemen:

Enclosed please find Licensee Event Report (LER) No. 92-017-00 for Seabrook Station. This submittal documents an event that occurred on September 7, 1992. This event is being reported pursuant to 10 CFR 50.73(a)(2)(iv).

Very truly yours,

Ted C. Feigenbaum

TCF:JES/jes
Enclosures: NRC Forms 366, 366A

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